

REMARKS

Claims 7, 60-62, 65, 67, and 69-70 have been cancelled without prejudice.

Claims 1, 19, 20, 23, 25, and 41 have been amended. Claims 1, 19, 20, 23, 25, and 41 have been amended to specify that the marine animal products in the feed composition administered to the female swine comprise " C_{20} and C_{22} omega-3 fatty acids or esters thereof." Support for this claim amendment can be found, in particular, in original claim 7 and in Example 1. Claim 41 has also been amended to delete the reference to administering a feed composition containing omega-3 fatty acids to male swine in response to the Examiner's objection to claim 41.

Applicants wish to express their appreciation for the courtesies extended by Examiner Jiang and Supervisory Examiner Padmanabhan during the interview on May 5, 2003. During the interview the rejection of the pending claims in the January 29, 2003 Office Action under 35 U.S.C. § 103(a) was discussed. The Examiners agreed that U.S. Patent No. 5,110,592 (the primary reference cited by the Examiner in the § 103(a) rejection) does not teach the use of C_{20} and C_{22} omega-3 fatty acids for increasing the reproductive performance of female swine, as required by Applicants' amended claims, but rather teaches the use of flaxseed for this purpose.

The Examiners requested clarification that flax meal is ground flaxseed (in reference to Exhibit E submitted with the previous response to Office Action, filed on October 21, 2002). Applicants' undersigned attorney spoke with inventor, Dr. Douglas M. Webel, and Dr. Webel confirmed that flax meal is ground flaxseed. Dr. Webel also provided a table, attached as Exhibit A to this response, that shows the fatty acid profile of "GROUND WHOLE FLAXSEED ("FLAXSEED MEAL")." Like Exhibit E, submitted with Dr. Webel's declaration in the October 21 response, Exhibit A shows that ground flaxseed lacks C_{20} and C_{22} omega-3 fatty acids. The C_{20} and C_{22} omega-3 fatty acids listed are (Ω 20:3), (Ω

20:5;EPA), (Ω 22:5), and (Ω 22:6;DHA). For each of (Ω 20:3), (Ω 20:5;EPA), (Ω 22:5), and (Ω 22:6;DHA) the percent of total fat in flaxseed that each of these omega-3 fatty acids represents is "0.00" percent. Accordingly, as discussed in the interview, and as also shown by Exhibits A and E, flaxseed lacks C₂₀ and C₂₂ omega-3 fatty acids.

In the May 5 interview the Examiners appreciated that Applicants' statement on page 2, lines 29-30, of the specification is that "the effects of linseed oil, and omega-3 fatty acids in particular, on increased sperm fertility and female fertility, applicable to cattle, sheep, and rats, have been studied (Abayasekara, *et al.*, 1999)," and Applicants do not state that "omega-3 fatty acids in particular are known to be useful to increase female animal fertility" as indicated by the Examiner in the January 29 Office Action. During the interview the Examiners also appreciated that Abayasekara *et al.* (cited by Applicants' in reference to the above statement) further supports that Applicants simply stated that the effects of omega-3 fatty acids on fertility have been studied because Abayasekara *et al.* concludes (page 282, column 2, last paragraph) that the effects of polyunsaturated fatty acids on fertility are inconclusive.

Lastly, Supervisory Examiner Padmanabhan indicated that Examiner Jiang will conduct an additional search based on the amended claims. If no prior art is identified teaching the use of marine animal products containing C₂₀ and C₂₂ omega-3 fatty acids for increasing the reproductive performance of female swine, the claims will be allowed. Applicants' response to the January 29, 2003 Office Action is as follows.

I. Applicants' claimed invention has met with great commercial success.

If a product that embodies the invention supplants prior art products and is a great commercial success, then it can be inferred that the invention was not obvious because otherwise persons lured by the prospect of success would have developed the invention sooner. *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 227 U.S.P.Q. 766 (Fed. Cir.

1985); *Cable Electric Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 226 U.S.P.Q. 881 (Fed. Cir. 1985). In response to the Examiner's rejection, Applicants submitted in the previous response, filed on October 21, 2002, the § 1.132 declaration of Dr. Donald E. Orr, the President and Chief Operating Officer of United Feeds, Inc., the assignee of the captioned patent application, in which Dr. Orr described in detail the great commercial success of the product that is the subject of Applicants' claimed method. The commercial success of the product that embodies the claimed method establishes that the claimed invention is nonobvious.

As Dr. Orr asserts in the § 1.132 declaration, the product (FERTILIUM™) that embodies the claimed method was introduced into the marketplace in February of 2002. FERTILIUM™ is an animal feed additive that contains marine animal products comprising C₂₀ and C₂₂ omega-3 fatty acids and esters thereof, and is fed to female swine to increase the reproductive performance of female swine (*i.e.*, FERTILIUM™ is the product that embodies the method of the pending claims). As Dr. Orr indicates, approximately 150,000 sows were being fed FERTILIUM™ in 2002, and current market analysis projections predict that FERTILIUM™ will be fed to approximately 600,000 sows by the end of 2003 and 1,000,000 sows by the end of 2004. As Dr. Orr also indicates, approximately 130,000 pounds of FERTILIUM™ were being ordered per month in 2002 from United Feeds, Inc., and, based on current market analysis projections, it is predicted that approximately 525,000 pounds per month will be ordered by the end of 2003 and 875,000 pounds per month by the end of 2004.

The commercial acceptance of FERTILIUM™ is directly related to the claimed invention (*i.e.*, a method of increasing the reproductive performance of female swine by administering a feed composition containing marine animal products comprising C₂₀ and C₂₂ omega-3 fatty acids and esters thereof to the female swine). The swine production business is very competitive and margins are very close. Swine producers have been

impressed by the consistently good results obtained (*i.e.*, increased reproductive performance in sows) when sows are fed FERTILIUM™ and, thus, the effectiveness of FERTILIUM™ in increasing reproductive performance of sows has led to the commercial success of the claimed invention. The commercial success of FERTILIUM™ is evidenced in the § 1.132 declaration by the detailed sales and usage figures presented in the declaration, and, as Dr. Orr asserts in the declaration, the commercial success of FERTILIUM™ has been more rapid than expected based on his experience in new product development in the animal feed supplement market.

Furthermore, as Dr. Orr asserts in the § 1.132 declaration, FERTILIUM™ already has three to five times the market share that a flaxseed-containing product, that was on the market for a number of years before FERTILIUM™ was introduced, has for use in increasing reproductive performance in female swine, and FERTILIUM™ has only been on the market for about 8 months. Therefore, the great commercial success of FERTILIUM™, the product that embodies the claimed method, and the short time within which FERTILIUM™ has supplanted prior art products in the same market (*i.e.*, the flaxseed-containing product) indicate that the claimed invention is nonobvious because otherwise persons lured by the prospect of commercial success would have developed the claimed invention sooner.

In the January 29, 2003 Office Action, the Examiner indicates that the declaration of Dr. Donald E. Orr is insufficient to establish that Applicants' invention has met with great commercial success because the declaration merely shows the value of sales (in U.S. dollars) per the number pounds sold in 2002 for FERTILIUM™ (see January 29 Office Action, page 9). The Examiner further indicates that a full market comparison with Applicants' competitors is required (see January 29 Office Action, page 9).

Contrary to the Examiner's argument, MPEP § 716.03(b) entitled "Commercial Success Derived From Claimed Invention" contains a section entitled "Sales Figures Must Be Adequately Defined." This section reads in its entirety as follows:

Gross sales figures do not show commercial success *absent evidence as to market share*, *Cable Electric Products, Inc. v. Genmark, Inc.* 770 F.2d 1015, 226 USPQ 881 (Fed. Cir. 1985), or as to the time period during which the product was sold, or as to what sales would normally be expected in the market, *Es parte Standish*, 10 USPQ2d 1454 (Bd. Pat. App. & Inter. 1988).

(Emphasis Added). Thus, the MPEP indicates that gross sales figures do not show commercial success absent evidence as to market share, citing *Cable Electric Products, Inc. v. Genmark, Inc.* Alternatively, the time period during which the product was sold could be shown or evidence as to what sales would normally be expected in the market could be provided.

In *Cable Electric Products, Inc. v. Genmark, Inc.*, 226 USPQ at 888, the court discussed the issue of the Plaintiff's commercial success declaration as evidence of nonobviousness and indicated that the Plaintiff had only provided information as to number of units of its product, a night light, sold and the profit per night light. The court stated that "[w]hat it shows in relation to commercial success is fairly minimal. Without further economic evidence, for example, it would be improper to infer that the reported sales represent a *substantial share of any definable market* or whether the profitability per unit is anything out of the ordinary in the industry involved." (Emphasis Added). *Id.* at 888. Thus, the court in *Cable Electric Products, Inc. v. Genmark, Inc.* and the MPEP indicate that evidence as to market share is sufficient to demonstrate commercial success.

In the § 1.132 declaration, filed on October 21, 2002, in response to the April 23, 2002 Office Action, Dr. Donald E. Orr states:

Fertilium™ already has a market share that is three to five times greater than a flaxseed-containing product, and Fertilium™ has only been on the market for about 8 months. The flaxseed-containing product is an animal feed supplement containing ground flaxseed that is sold for use in increasing the

reproductive performance of female swine, and the flaxseed-containing product had been on the market for a number of years before Fertilium™ was introduced to the marketplace. Therefore, Fertilium™, the product that embodies the claimed method, has met with great commercial success, and Fertilium™ has supplanted a flaxseed-containing product in the animal feed supplement market in the short time that Fertilium™ has been on the market.

Accordingly, Applicants provided evidence in the declaration of Dr. Donald E. Orr of the market share that FERTILIUM™ has attained in the short time that it has been on the market, and Applicants provided evidence that FERTILIUM™ supplanted the flaxseed-containing product in the animal feed supplement market after only 8 months on the market. This evidence satisfies both the requirements of MPEP § 716.03(b), and the case law cited in the MPEP. The Examiner indicates that a full market comparison with Applicants' competitors is required (see January 29 Office Action, page 9), but, respectfully, that is not what MPEP § 716.03(b) or the case law it cites requires, and it is unlikely that such a comparison could be done because it is doubtful that a business would divulge its market share, its monthly sales figures, or its profitability to a competitor, especially when that competitor has supplanted it in the industry.

II. Rejection of claims 1-20, 25, 41, 60-62, 65, 67, 69, and 70-72 under 35 U.S.C. § 103(a).

Claims 1-20, 25, 41, 60-62, 65, 67, 69, and 70-72 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,110,592 (hereinafter the '592 patent) in view of Boudreaux et al. and statements on pages 1-3 of the specification. Claims 7, 60-62, 65, 67, and 69-70 have been canceled without prejudice obviating the Examiner's rejection of these claims. The Examiner indicates that the '592 patent discloses that omega-3 fatty acids such as alpha-linolenic acid, eicosapentenoic acid, and docosahexanoic acid in an edible composition comprising flaxseed to be administered daily are useful in a method for increasing the number of live births to a female animal such as a female swine. The

Examiner also states that the '592 patent teaches that flaxseed is known to contain omega-3 fatty acids such as alpha-linoleic acid, eicosapentenoic acid, and docosahexanoic acid, but that the '592 patent does not disclose the ratio of omega-6 fatty acids to omega-3 fatty acids in the composition. The Examiner further indicates that Boudreaux et al. discloses a ratio of omega-6 to omega-3 fatty acids that is within the instant claims.

The Examiner also indicates that the Applicants teach on pages 1-3 of the specification that 1.) omega-3 fatty acids such as eicosapentenoic acid and docosahexanoic acid and docosapentaenoic acid are well known to be derived from fish oils and marine algae (page 2, lines 13-14), 2.) omega-6 fatty acids are known to increase the number of live births in animals (page 2, lines 24-25), 3.) salmon oil is known to be used in animal food (page 2, lines 26-27), 4.) omega-3 fatty acids in particular are known to be useful to increase female animal fertility (page 2, lines 29-30), and 5.) salmon oil is known to contain both omega-3 and omega-6 fatty acids (page 3, lines 1-3). Thus, the Examiner contends that, based upon all of the above-described teachings in combination, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ omega-3 and omega-6 fatty acids derived from fish oil in Applicants' claimed method for increasing the reproductive performance of female swine and to optimize the ratio of these fatty acids in the composition. Applicants respectfully traverse the Examiner's rejection. The invention of amended claims 1-6, 8-20, 25, 41, and 71-72 is not obvious over the '592 patent in view of Boudreaux et al. and statements on pages 1-3 of Applicants' specification.

A. Claims 1-6, 8-20, 25, 41, and 71-72 are not obvious over the '592 patent.

Flaxseed lacks C₂₀ and C₂₂ omega-3 fatty acids. See the § 1.132 declarations of Dr. Douglas M. Webel and Dr. Stephen K. Webel and Exhibit E transmitted with the previous response to Office Action, filed on October 21, 2002. Applicants will first

discuss the insufficiencies of the primary reference cited by the Examiner, the '592 patent, and then will discuss why the secondary references do not overcome the insufficiencies of the '592 patent.

All of Applicants' pending claims, as amended, require that the feed composition administered to female swine contains marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids." As discussed in the previous response, Exhibit E shows that flaxseed lacks C₂₀ and C₂₂ omega-3 fatty acids. The Examiner states in the January 29, 2003 Office Action that, "[a]dditionally, Applicants arguments and the declarations of Dr. Stephen K. Webel, Dr. Douglas M. Webel and Exhibit E, regarding that "flaxseed lacks C₂₀ and C₂₂ omega-3 fatty acids" have been fully considered but are not deemed persuasive. There is no factual data in the declarations in support of Applicant's statement that "flaxseed lacks C₂₀ and C₂₂ omega-3 fatty acids." (See page 8, paragraph 1, of the January 29 Office Action).

Respectfully, the Examiner has misinterpreted the data presented in Exhibit E, attached to the declarations of Dr. Stephen K. Webel and Dr. Douglas M. Webel. Exhibit E contains a table entitled "Fatty Acid Profile" that lists the fatty acid profile of flaxseed and shows the percent of total fat in flaxseed that each fatty acid in flaxseed represents. The Examiner's attention is directed to the footnote at the bottom of Exhibit E which states that "omega 3 fatty acids (Ω -3) are bolded." There are six bolded fatty acids in the table and these are the omega-3 fatty acids that are present in flaxseed (*i.e.*, **Linolenic (Ω 18:3)**, **(Ω 18:4)**, **(Ω 20:3)**, **(Ω 20:5;EPA)**, **(Ω 22:5)**, and **(Ω 22:6;DHA)**). The only omega-3 fatty acids of these six fatty acids that comprise C₂₀ and C₂₂ omega-3 fatty acids are **(Ω 20:3)**, **(Ω 20:5;EPA)**, **(Ω 22:5)**, and **(Ω 22:6;DHA)**. The right-hand column in the table shows the percent of total fat in flaxseed that each type of fatty acid represents. For each of (Ω 20:3), (Ω 20:5;EPA), (Ω 22:5), and (Ω 22:6;DHA) the percent of total fat in flaxseed that each of

these omega-3 fatty acids represents is “0.00” percent. Accordingly, as discussed in the previous response, flaxseed lacks C₂₀ and C₂₂ omega-3 fatty acids.

The Examiner contends not only that there is no factual data in the declarations in support of Applicants’ statement that “flaxseed lacks C₂₀ and C₂₂ omega-3 fatty acids,” but the Examiner also indicates that the ‘592 patent “teaches that flaxseed is known to contain omega-3 fatty acids such as alpha-linolenic acid, eicosapentenoic acid, and docosahexanoic acid.” (See page 4, paragraph 1 of the January 29 Office Action). Eicosapentenoic acid (EPA) and docosahexanoic acid (DHA) are C₂₀ and C₂₂ omega-3 fatty acids, but the ‘592 patent does not teach that flaxseed is known to contain EPA and DHA. The ‘592 patent makes a general statement (see column 4, lines 13-17) that omega-3 fatty acids include EPA and DHA, but also states (see column 4, lines 16-17) that EPA and DHA are “found only in animal products.” Flaxseed is not an animal product, but rather is a plant product, and, accordingly, cannot contain EPA and DHA. Thus, the ‘592 patent does not teach that flaxseed is known to contain EPA and DHA as the Examiner indicates, but teaches that administration of a feed composition containing flaxseed to female swine increases the reproductive performance of female swine, and the ‘592 patent further teaches that flaxseed lacks EPA and DHA. Thus, the ‘592 patent teaches that a composition lacking C₂₀ and C₂₂ omega-3 fatty acids increases the reproductive performance of female swine. Accordingly, the subject matter of claims 1-6, 8-20, 25, 41, and 71-72 cannot be obvious over the ‘592 patent because the feed composition described in the ‘592 patent lacks C₂₀ and C₂₂ omega-3 fatty acids or esters thereof and all of the Applicants’ pending claims, as amended, require that the feed composition used in the claimed method contains C₂₀ and C₂₂ omega-3 fatty acids or esters thereof.

Furthermore, as discussed above, a flaxseed-containing product has been on the market as an animal feed additive for a number of years, and FERTILIUM™ supplanted

the flaxseed-containing product for use in increasing reproductive performance in female swine after being on the market only 8 months. Thus, the commercial success of FERTILIUM™ over the flaxseed-containing product establishes that the claimed invention is nonobvious over the subject matter of the '592 patent because otherwise people, reading the '592 patent and having knowledge of the flaxseed-containing product in the marketplace, would have been lured by the prospect of commercial success and would have developed the claimed invention sooner.

B. Claims 1-6, 8-20, 25, 41, and 71-72 are not obvious over the '592 patent in view of Applicants' statements 1, 3, and 5 or Boudreaux et al.

Applicants will now discuss why Applicants' statements 1, 3, and 5 and Boudreaux et al. do not overcome the insufficiencies of the primary reference, the '592 patent, when viewed in combination with the '592 patent. The Examiner indicates that the Applicants teach on pages 1-3 of the specification that 1.) omega-3 fatty acids such as eicosapentenoic acid and docosahexanoic acid and docosapentaenoic acid are well known to be derived from fish oils and marine algae, 3.) salmon oil is known to be used in animal food, and 5.) salmon oil is known to contain both omega-3 and omega-6 fatty acids.

Applicants' statements that fish oils and marine algae contain omega-3 fatty acids and that salmon oil contains omega-3 and omega-6 fatty acids do nothing to indicate that marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids or esters thereof" would increase the reproductive performance of female swine. These statements make no reference to increasing the reproductive performance of female swine, but simply indicate that omega-3 and omega-6 fatty acids are present in marine animal products. Thus, these statements do nothing to overcome the lack of teaching in the '592 patent that marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids" would increase the reproductive performance of female swine.

Likewise, Applicants' statement that salmon oil is known to be used in animal food does nothing to indicate that marine animal products comprising C₂₀ and C₂₂ omega-3 fatty acids would increase the reproductive performance of female swine. In fact the statement, taken in its entirety is that "salmon oil has been used in pet food to reduce damage to skin and mucosa in animals, such as dogs and cats, where the animal is afflicted with cancer and is subjected to radiation therapy (U.S. Pat. No. 6,015,798)." Thus, U.S. Pat. No. 6,015,798 describes the use of salmon oil to reduce skin damage in dogs and cats subjected to radiation therapy, and makes no mention of a method of increasing reproductive performance of female swine. Thus, Applicants' statements 1, 3, and 5 do not overcome the insufficiencies of the primary reference, the '592 patent (*i.e.*, the '592 patent does not teach that marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids" would increase the reproductive performance of female swine and Applicants' statements 1, 3, and 5 do not provide this teaching), and, when viewed in combination with the '592 patent do not render Applicants' claimed method obvious.

The Examiner further indicates that Boudreaux et al. discloses a ratio of omega-6 to omega-3 fatty acids that is within the instant claims. Boudreaux et al. does nothing to overcome the above-described insufficiencies of the '592 patent, in that Boudreaux et al. does not provide a teaching that marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids or esters thereof" would increase the reproductive performance of female swine. Boudreaux et al. simply teaches various ratios of omega-3 to omega-6 fatty acids that have been used to study the effect of these fatty acids on blood clotting in dogs. Accordingly, the subject matter of claims 1-6, 8-20, 25, 41, and 71-72 is not obvious over the '592 patent in combination with any of Applicants statements 1, 3, or 5, alone or in combination, or in combination with Boudreaux et al.

C. Claims 1-6, 8-20, 25, 41, and 71-72 are not obvious over the '592 patent in view of Applicants' statement 4.

Applicants will now discuss why Applicants' statement 4 does not overcome the insufficiencies of the '592 patent, when viewed in combination with the '592 patent. The Examiner asserts that the Applicants state on page 2, lines 29-30, of the specification that "omega-3 fatty acids in particular are known to be useful to increase female animal fertility." Contrary to the Examiner's assertion, the Applicants state on page 2, lines 29-30, that "the effects of linseed oil, and omega-3 fatty acids in particular, on increased sperm fertility and female fertility, applicable to cattle, sheep, and rats, have been studied (Abayasekara, *et al.*, 1999)." Respectfully, the Examiner has misquoted the Applicants' statement in both the Office Action mailed on April 23, 2002 (as discussed in the response filed on October 21, 2002) and again in the most recent Office Action mailed on January 29, 2003. The Applicants did not state that "omega-3 fatty acids in particular are known to be useful to increase female animal fertility," but stated that the effects of omega-3 fatty acids on increased sperm fertility and female fertility have been studied.

Applicants' statement 4 that the effects of omega-3 fatty acids on fertility have been studied does nothing to indicate that marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids" would increase the reproductive performance of female swine. Furthermore, when taken in the context of the Abayasekara et al. (the journal article cited by the Applicants in reference to this statement), Applicants' statement does not mean that "omega-3 fatty acids in particular are known to be useful to increase female animal fertility," but rather means what it says, that the effects of omega-3 fatty acids on fertility in cattle, sheep, and rats have been studied.

In Abayasekara et al. (attached to the response filed on October 21, 2002 as Exhibit A and discussed in that response), the effects of polyunsaturated fatty acids on fertility were studied. Abayasekara et al. teaches that the effects on fertility of dietary

supplementation with compositions containing these fatty acids is difficult to predict. Therefore, Applicants' statement taken in the context of Abayasekara et al. cannot mean that omega-3 fatty acids are known to be useful to increase female animal fertility because Abayasekara et al. teaches that the effects of polyunsaturated fatty acids on female fertility are difficult to predict. Accordingly, Applicants' statement 4 simply indicates that the effects of omega-3 fatty acids on fertility have been studied. This statement does nothing to overcome the insufficiencies of the '592 patent because the statement does not provide the teaching that is lacking in the '592 patent that marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids" would increase the reproductive performance of female swine. Accordingly, it would not have been obvious over the '592 patent in view of Applicants' statement 4 that marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids" would increase the reproductive performance of female swine as specified in Applicants' claims 1-6, 8-20, 25, 41, and 71-72.

D. Claims 1-6, 8-20, 25, 41, and 71-72 are not obvious over the '592 patent in view of Applicants' statement 2.

Applicants will now discuss why Applicants' statement 2 does not overcome the insufficiencies of the '592 patent, when viewed in combination with the '592 patent. The Examiner asserts that the Applicants state on page 2, lines 24-25, of the specification that "omega-6 fatty acids are known to increase the number of live births in animals." Contrary to the Examiner's assertion, the Applicants state on page 2, lines 24-25, of the amended specification that "linseed oil and corn oil have been used in animal feed as a source of omega-6 fatty acids to increase the number of live births and to increase the number of weaned rats (Quackenbush, *et al.*, 1942)." Again, when this statement is taken in the context of Quackenbush et al., the statement does not mean that "omega-6 fatty acids are known to increase the number of live births in animals" as the Examiner suggests.

In Quackenbush et al. (attached as Exhibit B to the response filed on October 21, 2002) two different diets were fed to rats and the effect of these diets on reproductive performance was determined. The diets were a "rice-extract diet" and a "yeast diet." These diets contained a coconut oil supplement (see page 1), a substantial lipid content derived from the rice extract and the yeast composition (see Table 2), and each of the diets was also supplemented with ethyl linolate or ethyl linolenate. Thus, the rats were fed a diet containing a mixture of lipids. Accordingly, Quackenbush et al. does not teach that omega-6 fatty acids increase the number of live births in rats (*i.e.*, a mixture of lipids was fed to the rats).

More importantly, Applicants' statement 2 does nothing to render obvious to a skilled artisan a method of increasing the reproductive performance of female swine by administering to the swine marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids." Applicants' statement 2 mentions "omega-6 fatty acids" and "weaned rats" and does nothing to render obvious Applicants' claimed method of increasing the reproductive performance of female swine by administering marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids" to the female swine. Thus, Applicants' claimed method is not obvious over Applicants' statement 2 alone or in combination with the '592 patent. Applicants' statement 2 does nothing to overcome the lack of teaching in the '592 patent that marine animal products "comprising C₂₀ and C₂₂ omega-3 fatty acids" would increase the reproductive performance of female swine. Based on all of the above arguments, Applicants' claimed method is not obvious over the '592 patent alone or in view of any of Applicants' statements, cited by the Examiner, or in view of Boudreaux et al. Withdrawal of the rejection of claims 1-6, 8-20, 25, 41, and 71-72 under 35 U.S.C. § 103(a) is respectfully requested.

CONCLUSION

The foregoing amendments and remarks are believed to fully respond to the Examiner's rejection. The amended claims are in condition for allowance. Applicants respectfully request allowance of the claims, and passage of the application to issuance.

Respectfully submitted,

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Fatty Acid Profile (Expressed as Percent of Total Fat)

Fat by acid hydrolysis
GROUND WHOLE FLAXSEED ("FLAXSEED MEAL")
Flax Meal Analyzed by ESOL University of Missouri

35.46%

Total Fat = 34% Total Fat = 15%

FLAX SEED "SOLVENT EXTRACTED FLAXSEED MEAL"

Total Fat = 7.6%

"MECHANICALLY EXTRACTED FLAXSEED MEAL"

Myristic (14:0)	0.05	0.00	-
Myristoleic (14:1)	0.03	0.00	-
Palmitic (16:0)	5.63	5.30	-
Palmitoleic (16:1)	0.08	0.00	-
(17:0)	0.06	0.00	-
(17:1)	0.04	0.00	-
Stearic (18:0)	3.22	4.10	-
Erucic (18:1)	0.00	0.00	-
Octic (18:1)	19.25	20.20	-
Linoleic (18:2)	15.53	12.70	15.90
Linolenic (18:3)	54.34	53.30	50.00
(18:4)	0.00	0.00	-
Arachidic (20:0)	0.12	0.00	-
(20:1)	0.00	0.00	-
(20:3)	0.00	0.00	-
Arachidonic (20:4)	0.00	0.00	-
(20:5:EPA)	0.00	0.00	-
Docosanoic (22:0)	0.19	0.00	-
Erucic (22:1)	0.06	0.00	-
(22:5)	0.00	0.00	-
(22:6:DHA)	0.00	0.00	-
Lignoceric (24:0)	0.16	0.00	-
Nervonic (24:1)	0.00	0.00	-

All data presented on an "as is" basis.

Omega 3 fatty acids (18-3) are bolded

Info from USDA National Nutrient Database for Standard Reference (Gr. Whole Flaxseed) (Whole)

PER 100g FLAXSEED MEAL "SOLVENT EXTRACTED FLAXSEED MEAL" "MECHANICALLY EXTRACTED FLAXSEED MEAL"

% Total Fat	23.79%	35.46%	34.00%	1.50%	7.80%
Total Omega 3 Fatty Acid Levels as % of Fat	30.74	54.34	53.30	66.00	65.90
% in Final Product (as is)	0.0539	0.1927	0.1812	0.0098	0.0514